

Application Reference No.28/2022-23/140

(यह परीक्षण रिपोर्ट 30/11/2028 तक वैध है/ THIS TEST REPORT IS VALID UPTO 30/11/2028)



Make of Agricultural Tractor : New Holland
Model : 5620 TX A2
Manufactured by : CNH Industrial (India) Pvt. Ltd.
Plot No.-3, Udyog Kendra, Greater Noida -
201306, Distt. Gautam Budh Nagar, Uttar
Pradesh, India.



भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय
(कृषि एवं किसान कल्याण विभाग)

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE AND FARMERS' WELFARE
(DEPARTMENT OF AGRICULTURE & FARMERS' WELFARE)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

ट्रैक्टर नगर, बुदनी (म.प्र.) 466 445

CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE

TRACTOR NAGAR, BUDNI (M.P.) 466 445

(An ISO 9001:2015 Certified Institute)

T-1793/2324/2023	NEW HOLLAND, 5620 TX A2 - INITIAL COMMERCIAL TEST
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IMPORTANT INFORMATION

The Government of India, Ministry of Agriculture and Farmers' Welfare has directed, vide a OM No. 13-17/2021-M&T(I&P) dated 28.07.2022, that since 15th August, 2022, only mandatory tests will be carried out on a tractor unless applicant has expressly requested for optional tests as well, mentioned in the above captioned OM.

In the instant case, there is no request from the applicant to carry out the optional tests hence only Mandatory Tests, as given below, have been conducted and reported in this report:-

1. PTO performance
2. Hydraulic performance
3. Drawbar performance
4. Brake performance

Month: November	Test Report No.: T-1793/2324/2023	Year: 2023
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GOVERNMENT OF INDIA
CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE
TRACTOR NAGAR, BUDNI (MADHYA PRADESH) 466445, INDIA

E-mail: fmti-mp@nic.in

Web site: <http://www.fmttibudni.gov.in>

Telephone: 07564-299003

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There is apparently a "Three Power Modes" in the tractor. The applicant has christened the different mode as "Power, ECO and ECO+". However, the applicant vide letter no. PD-PV 210194 dated 12.10.2023 requested to conduct the test only on so called Power mode. Therefore, this report contains the observation on the so called "Power Mode" only.

- [C] Tractor manufacturer's name and address : **CNH Industrial (India) Pvt. Ltd.
Plot No.-3, Udyog Kendra, Greater Noida – 201306, Distt. Gautam Budh Nagar, Uttar Pradesh, India.**
- [C] Submitted for test by (Applicant) : The Manufacturer
- [C] Selected for test by : The Ministry vide OM No. 13-17/2021 - M&T (I&P) dated 28.07.2022, has allowed the applicant to submit the test sample directly to the Institute without requiring any random selection for Initial Commercial Testing. Thus, the applicant directly submitted the test sample to the Institute for test.
- [D] Place of running-in : At manufacturer's works
- [D] Duration of running-in:
-Engine : 50
-Transmission : 50
- [C] Location of test : Government of India,
Central Farm Machinery Training and Testing Institute, P.O. - Tractor Nagar,
BUDNI - 466445 (M.P.), INDIA

1. SPECIFICATIONS OF TRACTOR

1.1 Identification:

1.1.1 Denomination

- [C] Make of tractor : New Holland
- [C] Model : 5620 TX A2
- [C] Type : Four Wheel Drive, Standard Agricultural Tractor.
- [C] Month & year of manufacture : 07/23
- [D] Country of origin : India

1.1.2 Numbers:

- [D] 1st Serial No. or prototype : NHN56200ZNC598607
- [C] Serial No. : NHN56200ZPG661762

1.2 Engine:

- [D] Manufacturer's address : TURK TRAKTOR VE ZIRAAT MAKINELERI A.S, GAZI MAHALLESİ, ANAD014, BULVARI NO 52-52A YENİMAHALLE ANKARA (TURKEY)
- [C] Make : TURK TRAKTOR VE ZIRAAT MAKINELERI, TURKEY
- [C] Model : 8035.25E.TRM4
- [C] Type : Four stroke, liquid cooled, turbocharged, common rail, direct injection, diesel engine.
- [C] Serial No. : 606957

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6. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

6.1 On the basis of test conducted the performance results have been summarized as evaluative (mandatory) / Non-evaluative (Non-mandatory) parameters applicable for Qualifying Minimum Performance criteria as per Clause-4 (Table-1) of **IS: 12207-2022** for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

Sl. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2022	Values declared by the applicant/ (D) Requirement (R)	As observed	Whether meets the requirements (Yes/No)
1	2	3	4	5	6	7
MANDATORY TESTS: (As per Ministry's Office Memorandum No. 13-17/2021-M&T (I&P) dated 28th of July, 2022).						
6.1.1	PTO Performance:					
a)	Maximum power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: $\pm 5\%$ for PTO power and or engine power > 26 kW. $\pm 10\%$ for PTO power and or engine ≤ 26 kW.	47.7 (D)	47.9	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	41.0 (D)	39.1	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	$+ 10\%$ max.	250 (D)	253	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	$\pm 8\%$	280 (D)	266.1	Yes
e)	Back-up torque, percent	Evaluative	12 percent	12 (D) 12 (R) Minimum	64.0	Yes
f)	Maximum operating temperature, ($^{\circ}$ C):					
	1) Engine oil	Evaluative	The declared value should not exceed the max. value specified by the oil company and the observed value under high ambient condition should not exceed the declaration.	132(D)	130	Yes
	2) Coolant	Evaluative	The declared value should not exceed the boiling temperature of coolant under the pressurized or otherwise and the observed value under high ambient condition should not exceed the declaration.	124(D)	113	Yes
g)	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. power under natural ambient conditions.	2.53 Maximum (R)	0.45	Yes
h)	Smoke level, m^{-1}	Evaluative	Maximum light absorption coefficient of 3.25 per meter or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR).	3.25 per meter Maximum (R)	0.00	Yes

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1	2	3	4	5	6	7
6.1.2	Drawbar performance:					
a)	Max. drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 70% of static mass of tractor with ballast.	*	*	*
b)	Max. drawbar pull with standard ballast corresponding to 15 percent wheel slip, (kN)	Evaluative	Minimum 70% of static mass of tractor without ballast or with standard ballast, as the case may be.	22.00 (D) 21.35 (R) Minimum	28.33	Yes
c)	Maximum drawbar power without ballast/ with standard ballast, (kW).	Evaluative	Minimum 80 % of PTO power as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft.	38.2 (D) 38.3 (R) Minimum	41.0	Yes
d)	Maximum transmission oil temperature, (°C)	Evaluative	The declared value should not exceed the maximum value specified by oil company	132 (D)	114	Yes
*Applicant vide letter no. PD-PV 210170 dated 04.09.2023 has requested to conduct the testing as per the additional guideline for testing of tractors vide OM No. 13-32/2023-M&T (I&P) (FTS-125476) dated 16.05.2023. Accordingly, drawbar performance test under standard ballasted condition was conducted only.						
6.1.3	Power lift and hydraulic pump performance:					
a)	Maximum lifting capacity throughout the range of lift, (kN):					
1)	At hitch points	Evaluative	Should not be less than 90% of declared value.	19.61 (D) 17.65 (R) Minimum	18.36	Yes
2)	With the standard frame	Evaluative	The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft.	15.30 (D) 11.27(R) Minimum	16.19	Yes
b)	Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm)	Non Evaluative	The observed value should not exceed 50 mm	50 (D) Maximum	15	Yes
6.1.4	Brake performance at 25 kmph:					
a)	Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with road ballast, (m):					
1)	Cold brake	Evaluative	10	10 (R)	7.06	Yes
2)	Hot brake	Evaluative	10	10 (R)	7.19	Yes
b)	Whether parking brake is effective at a force of 600 N at foot pedal (s) or 400 N at hand lever	Evaluative	Yes / No	Yes	Yes	Yes

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1	2	3	4	5	6	7
6.1.5	OPTIONAL TESTS: As the applicant has not applied for any optional tests, therefore no optional tests was conducted.					
6.1.6	Safety features :					
a)	Guards against moving and hot parts	Evaluative	Belt drives, pulleys, silencer, hydraulic pipes [As per IS 12239 (Part2)]	Meets the requirement	Yes	
b)	Lighting arrangement	Evaluative	As per CMVR	Meets the requirement	Yes	
c)	Seating requirements (Tractors having more than 1150 mm rear track width)	Non Evaluative	Should meet the requirements of IS: 12343 (As amended from time to time)	Does not meet the requirement	No	
d)	Technical requirements for PTO shaft	Non Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)	Does not meet the requirement	No	
e)	Dimensions of three point linkage	Non Evaluative	Should meet the requirements of IS :17231-2019.	Does not meet the requirement	No	
f)	Specifications of linkage drawbar	Non Evaluative	Should meet the requirements of IS: 12953 (As amended from time to time)	Meets the requirement	Yes	
g)	Swinging drawbar (wherever fitted)	Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)	Not provided	Not applicable	
h)	Audible warning signal on tractor	Evaluative	If tractor travel speed in reverse gear exceeds 20 kmph, an audible warning signal on tractor shall get activated. A sticker to the effect that "operating the tractor beyond 20 kmph speed in reverse gear is not safe" should be prominently displayed.	Not provided	Not applicable	
6.1.7	Labelling of tractors (Provision of labelling plate):					
1)	Make	Evaluative	Should conform to the requirements of CMVR along with maximum PTO Power in kW, specific fuel consumption (SFC) corresponding to maximum power in g/kWh and year of manufacture in numerical form. MM YY Digit 01 – 12 in box No.1for MM will represent the months and next two digits in box No.2 for YY will represent the year of Manufacturing.	NEW HOLLAND	Yes	
2)	Model	Evaluative		5620 TX A2	Yes	
3)	Month & Year of manufacture	Evaluative		07/23	Yes	
4)	Engine number	Evaluative		606957	Yes	
5)	Chassis number	Evaluative		NHN56200ZPG6 61762	Yes	
6)	Maximum PTO power, (kW)	Evaluative		47.7	Yes	
7)	Specific fuel consumption, (g/kWh)	Evaluative		250	Yes	

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1	2	3	4	5	6	7
6.1.8	Literature (Submission to test agency):					
(a)	Operator manual	Evaluative	Provided / Not Provided	Provided	Provided	Yes*
(b)	Parts Catalogue	Evaluative	Provided / Not Provided	Provided	Provided	Yes*
(c)	Workshop/ Service manual	Evaluative	Provided / Not Provided	Provided	Provided	Yes*
6.1.9	Fitment of Roll Over Protective Structures (ROPS):					
	For tractor having more than 1150 mm rear track width	Evaluative	ROPS should meet the requirement of IS:1182 or OECD code or equivalent International Standard	ROPS fitted [Meets the requirement of IS: 11821 (Part-2) vide test certificate No. ED/14-15/1499976374/P2063 Dated 28/11/2014] & ED/14-15/1499976374/P2063 Extension 01 Dated 03/03/2020]		Yes
6.1.10	Standard Accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor	Provided		Yes
6.1.11	Accessories (optional)	Non Evaluative	Ballast weight, if fitted, should meet the requirement of CMVR	Conforms		Yes

Remark: *The model 5620 TX Plus+ & 5630 TX Plus+ are collectively applicable for the below variant shown in the front fly sheet. "5620 TX Plus+: 5620 TX A1, 5620 TX A2, 5620 TX A3 & 5620 TX A4". "5630 TX Plus+: 5630 TX A, 5630 TX A1, 5630 TX A2 & 5630 TX A3. Refer page 1-1 of Operator's manual, Page 2 of Parts catalogue Part-I & Page 1 of Service manual Part-I.

6.2 CATEGORY OF BREAKDOWNS / DEFECTS (As per clause 5.0 of IS:12207-2022):					
S. No.	Category of break-downs	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	As observed	Whether meets the Requirements (Yes/No)
1.	Critical	Evaluative	No critical breakdown.	None	Yes
2.	Major	Evaluative	Not more than two and neither of them should be repetitive in nature.	None	Yes
3.	Minor	Evaluative	Not more than five and neither of them should be repetitive in nature.	None	Yes
4.	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed five, that is, (2 major + 3 minor) or (1 major + 4 minor) or 5 minor breakdowns.	None	Yes

6.3 Conformity with following IS:

- i)** Guidelines for declaration of power and specific fuel consumption and labeling of agricultural tractors (First revision) [IS:10273 -1987 (Reaffirmed Year 2019)] : **Does not conform**
- ii)** Agricultural tractors - Rear mounted power take-off - Types 1, 2 and 3 (third revision) [IS:4931-1995 (Reaffirmed Year 2019)] : **Does not conform**
- iii)** Agricultural wheeled tractors – Rear mounted three-point linkage: Part 1 Categories 1N, 1, 2N, 2, 3N, 3, 4N & 4 IS :17231-2019 : **Does not conform**
- iv)** Drawbar for agricultural tractors – Link type [IS 12953:1990 (Reaffirmed Year 2022)] : **Conforms**
- v)** Agricultural tractors- Operator's seat technical requirement [IS12343 - 2021] : **Does not conform**

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- vi) Guide for safety & comfort of operator of agricultural tractors:Part 1 : **Does not conform**
General requirements (first revision):[IS 12239 (Part 1)-2018]
- vii) Tractors and machinery for agriculture and forestry – Technical means for : **Does not conform**
ensuring safety Part 2: Tractors (first revision) (IS 12239 (Part 2) 1999)
(Reaffirmed Year 2019)]
- viii) Guide lines for location and operation of operator controls on agricultural : **Does not conform**
tractors and machinery [IS: 8133-2021]
- ix) Tractors and machinery for agriculture and forestry, powered lawn and : **Conforms**
garden equipment - Symbols for operator controls and other displays
Part-2 Symbols for agricultural tractors and machinery [IS: 6283(Part-1) -
2006 (Reaffirmed Year 2019) and IS: 6283 (Part-2) – 2007 (Reaffirmed
Year 2019)]
- x) Agricultural Tractors and Machinery-Lighting device for travel on public : **Conforms**
roads (IS:14683-1999) (Reaffirmed Year 2019)]

6.4 Salient Observations:

6.4.1 PTO performance:

During PTO test at maximum power search and two hour maximum power test under NAC engine rpm under no load was observed 2467 rpm against the declaration of 2500 to 2600 rpm. The applicant has submitted vide letter no. PD-PV 210196 dated 13.10.2023 and request for adjustment of throttle linkages, cleaning of throttle control unit connector & ECU system functioning, which was accepted and engine rpm was set at 2530 rpm through ECU.

6.4.2 Operator's seat:

The following parameters does not meet the requirement of IS: 12343-2021.

- i) Provision for adjustment of driver's mass has been specified as 50 to 120 kg against the requirement of 40 to 100 kg.
- ii) Vertical distance from Seat Index Point to steering control wheel was measured 220 mm against the requirement of 265 to 385 mm.
- iii) Vertical distance from Seat Index Point to centre of accelerator pedal was measured 490 mm against the requirement of 230 to 460 mm.
- iv) Vertical distance from Seat Index Point to foot rest was measured 560 mm against the requirement of 450 to 520 mm.

Therefore, all of the above should be looked into for necessary corrective action.

6.4.3 Operator's work place:

The following parameters does not meet the requirement of IS: 12239 (Part-I) 2018.

- i) Vertical retainers on inner side of clutch pedal is not provided.
- ii) Spark arresting device has not been provided in the exhaust system.

Therefore, all of the above should be looked into for necessary corrective action.

6.4.4 Three point linkage:

The dimensions viz. diameter of hitch pin hole of upper hitch points, diameter of hitch pin hole & width of ball of lower hitch points, distance from end of power take-off to the centre of lower hitch point (lower link in horizontal position) & lateral distance from lower hitch point to centre line of tractor does not meet the requirements of IS 17231: 2019. This should be looked into for corrective action.

6.4.5 Dimensions of PTO shaft:

PTO shaft height was measured 700 mm from ground level against the requirement of 450 to 675 mm, which does not meet the non-evaluative requirements of IS 4931-1995. This should be looked into for corrective action.

6.4.6 PTO master shield:

PTO master shield has not been provided on tractor. This should be looked into for necessary corrective action.

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6.4.7 Electrical components:

The power of the generator has been specified as 14V, 55 amp @ speed of 6000 rpm. This should be looked into for necessary corrective action.

6.5 Specification of Tractor

i) Discrepancies in the specification between the Specification sheet and Operator's manual are as under:

S. No.	Description	As per Specification Sheet	As per Operator's manual
a.	Service schedule		
	Engine oil	First change after 50 hours of operation subsequently after every 300 hours of operation.	Change after every 600 hours of operation (Pg. No. 7-12).
b.	Trumpet oil, l	Not available (40.0, Common with gearbox)	15.4 (Pg. No. 7-9)
c.	Front axle and front final drive, l	Common, 8.0	Separate, 5.0 (front axle differential) & 1.25 (final drive), (Pg. No. 7-9)

6.6 Maintenance / Service Problems:

No noticeable maintenance or service problem was observed during the test.

6.7 Recommendation with regard to safety on tractor:

- i) Identification of control levers by colour has not been provided as per the requirement as laid down in Table - 5 of IS: 8133-2021.
- ii) Colour codes on illuminated display has not been provided as per the requirement as laid down in IS: 6283 (Part 2): 2007.
- iii) The hand accelerator lever, when moved away from the operator (i.e. forward) decreases the engine speed, which does not meet the requirement as laid down in Table - 1 of IS: 8133-2021.
- iv) PTO clutch lever engages when move rearward, which does not meet the requirement as laid down in Table - 1 of IS: 8133-2021.
- v) The working clearance between draft control lever and position control lever, draft control lever and operator's seat has been measured as 60 mm & 50 mm respectively, against the minimum requirement of 70 mm.

Above parameters should be looked into for necessary corrective action.

6.8 Adequacy of Literature supplied with machine:

6.8.1 The following literatures were supplied with the test tractor for reference during the test: -




- a) Operator Manual for "New Holland 5620TX A1, 5620 TX A2, 5620 TX A3, 5620 TX A4, 5630 TX A, 5630 TX A1, 5630 TX A2, 5630 TX A3" tractor models.
- b) Parts catalogue Part - I, II & III for "New Holland 5620 TX A, 5620TX A1, 5620 TX A2 & 5620 TX A3" tractor models.
- c) Service manual Part - I, II, III & IV for "New Holland 5620TX A1, 5620 TX A2, 5620 TX A3, 5620 TX A4, 5630 TX A, 5630 TX A1, 5630 TX A2, 5630 TX A3 " tractor models.

6.8.2 The operator manual may be brought out for the guidance of users and service personnel as per IS: 8132-1999 incorporating, inter alia, the following:

- i) Engine to PTO speed ratio.
- ii) Recommended ballast masses for different operations.

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TEST CARRIED OUT AT C.F.M.T. & T.I., BUDNI (M.P.), INDIA
TESTING AUTHORITY

C.K. TIJARE AGRICULTURAL ENGINEER	
R.P. PANDEY SENIOR INSTRUMENTATION ENGINEER	
A. K. UPADHYAY DIRECTOR (I/C)	

Draft Test Report compiled by **Vithato Keyho**, Senior Technical Assistant.

7. APPLICANT'S COMMENTS

Para No.	Our reference	Applicant's comments
7.1	Clause no. 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.4.5, 6.4.6 & 6.4.7	Your valuable comments and suggestions for improvement are well taken. Under our policy of continuous product improvement, these aspects are being looked into further and we will take appropriate actions to eliminate these deviation soon wherever necessary.
7.2	Clause no. 6.5 & 6.8.2	We will study this further, and appropriate action will be taken.

ANNEXURE-I

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS:	HOURS
1.	Running-in	Applicant has declared it to be conducted on their work place.
2.	PTO performance test	16.8
3.	Power lift and hydraulic pump performance test	1.0
4.	Drawbar performance test	5.4
5.	Brake performance test	2.3
6.	Nominal speed test	1.7
B.	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	5.5
TOTAL:		32.7